AMENDMENTS TO THE CLAIMS

The present listing replaces all previous listings of the claims.

Claims 1-25 (canceled)

26. (previously presented) A vector for expressing DNA comprising:

a) a self-replicating origin of replication operative in mammalian cells; and

b) an LCR ,or component thereof, which, when operatively linked to a gene of interest and present in a mammalian host cell, directs extrachromosomal transcription of said gene in a tissue-restricted manner,

wherein said vector replicates extrachromosomally.

27. (previously presented) A vector for expressing DNA comprising:

a) a self-replicating origin of replication operative in mammalian cells; and

b) a β-globin LCR , or component thereof, which, when operatively linked to a gene of interest and present in a mammalian host cell, directs extrachromosomal transcription of said gene in a tissue-restricted manner,

wherein said vector replicates extrachromosomally.

28. (previously presented) The vector of claim 27 wherein said vector comprises a component of the β-globin LCR.

29. (previously presented) The vector of claim 28 wherein the component of the β-globin LCR consists essentially of HS3.

30. (previously presented) The vector of claim 28 wherein the component of the β-globin LCR excludes HS2.

31. (previously presented) The vector of claim 28 wherein the component of the β-globin LCR consists essentially of HS3 and HS4.

32. (previously presented) The vector of claim 26, wherein the origin of replication is a viral origin of replication.

33. (previously presented) The vector of claim 32 wherein the viral origin of replication is an origin of replication from Epstein-Barr virus.

34. (previously presented) The vector of claim 26, further comprising a sequence encoding a replication factor required for replication of the expression vector in a host cell.

35. (previously presented) The vector of claim 34 wherein the sequence encoding the replication factor is selected from the group consisting of a sequence encoding EBNA-1 of Epstein-Barr virus, a sequence encoding E1 of papilloma virus, and a sequence encoding E2 of papilloma virus.

36. (previously presented) The vector of claim 26, further comprising an antibiotic resistance gene for selecting cells in culture stably transfected with the vector.

37. (previously presented) The vector of claim 26 or 27, further comprising a gene of interest.

38. (previously presented) The vector of claim 37, further comprising a eukaryotic transcription termination sequence between the LCR and the gene of interest and operative to prevent transcription therebetween.

39. (previously presented) A pair of vectors comprising an expression system for expressing a gene of interest in a host cell in a tissue-restricted manner, the pair of vectors comprising:

i) a first vector comprising

(a) a first origin of replication operative in mammalian host cells;

(b) an LCR, or functional component thereof, which when operatively linked to a gene of interest and present in a mammalian host cell directs extrachromosomal transcription of said gene in a tissue restricted manner; and

(c) a gene of interest; and

ii) a second vector comprising

(a) a second origin of replication operative in a mammalian host cell; and

(b) a sequence encoding a replication protein, said replication protein being necessary for replication of said second origin of replication, wherein said first and second origins of replication may be the same or different.

40. (previously presented) The pair of vectors of claim 39, wherein the LCR, or component thereof, is a β-globin LCR, or component thereof.

41. (previously presented) The pair of vectors of claim 39 wherein said first vector comprises a component of the β-globin LCR.

42. (previously presented) The pair of vectors of claim 41 wherein said component of the β-globin LCR consists essentially of HS3.

43. (previously presented) The pair of vectors of claim 42 wherein said component of the β-globin LCR excludes HS2.

44. (previously presented) The pair of vectors of claim 42 wherein said component of the β-globin LCR consists essentially of HS3 and HS4.

45. (previously presented) The pair of vectors of claim 39 wherein said origins of replication are viral origins of replication.

46. (previously presented) The pair of vectors of claim 45, said viral origins of replication are from Epstein-Barr virus.

47. (previously presented) The pair of vectors of claim 39 wherein the sequence encoding the replication factor is selected from the group consisting of a sequence encoding EBNA-1 of Epstein-Barr virus, a sequence encoding E1 of papilloma virus, and a sequence encoding E2 of papilloma virus, and a sequence encoding E2 of papilloma virus.

48. (previously presented) The pair of vectors of claim 39, wherein each of said first and second vector further comprises an antibiotic resistance gene for selecting cells in culture stably transfected with the expression vector.

49. (previously presented) The pair of vectors of claim 39 wherein said first vector further comprises a eukaryotic transcription termination sequence placed between the LCR and the gene of interest.

Claims 50-51 (canceled)

52. (previously presented) A method of obtaining persistent, tissue-specific expression of a gene of interest in a host cell in culture, comprising culturing a host cell transfected with the vector of claim 37.

53. (previously presented) A method of obtaining persistent, tissue-specific expression of a gene of interest in a host cell in culture, comprising culturing a host cell transfected with the pair of vectors of claim 39.

54. (previously presented) A method of identifying an LCR or component thereof which when comprised in a non-integrating DNA expression vector, operatively linked to a gene of interest, and present in a host cell, directs expression of said gene in a tissue-restricted manner, comprising:

i. testing the LCR or component thereof by transfecting a non-integrating vector containing the candidate LCR or component thereof operatively linked to a

marker gene into a cell line in which the LCR when integrated is active and also into a cell line in which the LCR when integrated is inactive; and

ii. identifying the LCR or component which is only active in the cell line in which the LCR when integrated is active. --